



STATEMENT OF BASIS

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BAQ Engineering Services Division

Company Name	Preferred Finishing, Inc.	Permit Writer:	Jo Anna Cunningham
Permit Number:	0600-0071-CD	Date:	DRAFT

EXPEDITED REVIEW: This project was accepted into the expedited review program on April 24, 2017

DATE APPLICATION RECEIVED: Original application received on April 6, 2017; Denied from expedited on April 10, 2017; Addendum received April 24, 2017

FACILITY DESCRIPTION

Preferred Finishing, Inc. operates a textile facility in Cherokee County. The facility specializes in customized textile finishes.

PROJECT DESCRIPTION

The facility requested a construction permit to make a new proprietary product using the existing equipment. Due to the particulate matter (organic aerosols / oily mist) emitted from Tenter Frame #3 during product drying, the facility will need to install a new Coalescing Filter System to control the particulate matter emissions. The filter system will be installed on (existing) Drying Oven #4 (a component of Tenter Frame #3). With the addition of the new product, the potential to emit (PTE) now exceeds the major source threshold for PSD for PM, PM₁₀, and PM_{2.5} therefore the facility will have a PSD Avoidance limit of less than 250 tons per year for those pollutants. The PTE also exceeds the major source threshold for Title V for PM₁₀ and PM_{2.5} therefore the facility will also have a Title V Avoidance limit of less than 100 tons per year for those pollutants.

COLLOCATION DETERMINATION

The Department determined in 2014 that Preferred Finishing (0600-0071) and Textum Weaving, Inc. (0600-0106) are not co-located. Reference statement of basis for construction permit 0600-0071-CC for additional details.

SOURCE TEST REQUIREMENTS

Control Device Information

Coalescing Filters are designed for the removal of liquid Aerosols from the air stream. Coalescing Filters are specifically designed for the removal of liquid aerosols from gases in both corrosive and non-corrosive applications. These elements also remove particulates with the same efficiency.

The Coalescing Filter System at Preferred Finishing will consist of a Pre-Filter installed prior to the cooling section designed to remove any heavy solids prior to entering the coalescing filter section. The filter material is a 1-2" thick bat of fiberglass similar to the filters used in commercial AC installations. The removal efficiency of the pre-filter is at least 85 – 90%, assuming a minimal MERV rating of 6. The MERV rating 5 – 8 corresponds to Commercial Buildings, Better Residential, Industrial Workplace, Paint Booth Inlet filters. The second component of the filter system, the Coalescing Filter, has a 98.5% removal efficiency.

Thus, the air stream from the process will first go through the Pre-Filter which has a 85-90% removal efficiency, followed by the Coalescing Filter which has a 98.5% removal efficiency. Actual particulate emissions will be less than major source threshold.

Noteworthy: Engineering Services Division (ESD) Source Test Guidance document, suggest that in case-by-case determinations, for control devices such as Fabric Filters. If the facility is estimating a control efficiency less than 99%, then an initial source test may not be necessary. The Preferred Finishing Coalescing Filter System, will consist of a

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Pre-Filter (85-90% removal efficiency) followed by the Coalescing Filter (98.5% removal efficiency). Based on the information submitted for the control system and ESD Guidance, at this time, a source test is not being required.

SPECIAL CONDITIONS, MONITORING, LIMITS

- The facility currently has a General State Operating Permit for Textile Operations. After this construction project, the facility operating status will change to General Conditional Major for Textile Operations. Compliance with the synthetic minor emission limits shall be demonstrated via operation of the control device and record keeping and reporting. This is consistent with permit condition B.25 of the General Conditional Major for Textile Operations.

PROJECT EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
PM	286,189	4,293
PM ₁₀ *	274,742	4,121
PM _{2.5} *	264,726	3,971
VOC	2,891	N/A
HCL	0,289	N/A

*PM₁₀ and PM_{2.5} emissions were calculated using values from the South Coast Air Quality Management District: Final-Methodology to Calculate Particulate Matter (PM)_{2.5} and PM_{2.5} Significance Thresholds, October 2006.

FACILITY WIDE EMISSIONS		
Pollutant	Uncontrolled Emissions	Controlled/Limited Emissions
	TPY	TPY
PM	291,149	< 250
PM ₁₀	279,701	< 100
PM _{2.5}	269,685	< 100
SO ₂	0,100	N/A
NOX	16,797	N/A
CO	14,068	N/A
VOC	18,818	N/A
Highest HAP (Styrene) CAS # 100-42-5	2,30	N/A
Total HAP	2,60	N/A

OPERATING PERMIT STATUS

This facility currently operates under General State Operating Permit for Textile Operations. The general permit was issued on November 6, 2013; this facility was granted coverage on October 20, 2014.

- With this synthetic minor construction permit, 0600-0071-CD, facility wide limits PM < 250 tpy, PM₁₀ < 100 tpy and PM_{2.5} < 100 tpy will be established to limit the PTE below major source threshold. The facility currently has a General State Operating Permit for Textile Operations. After this construction project, the facility operating status will change to General Conditional Major for Textile Operations. Compliance with the emissions limits shall be demonstrated via operation of the control device and record keeping and reporting. This is consistent with permit condition B.25 of the General Conditional Major for Textile Operations.



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REGULATORY APPLICABILITY REVIEW

Regulations	Comments/Periodic Monitoring Requirements
Section II.E – Synthetic Minor	Applicable - Synthetic Minor Construction permit, facility wide limits PM < 250 tpy, PM ₁₀ < 100 tpy and PM _{2.5} < 100 tpy shall be established to limit the PTE below major source threshold.
Standard No. 1	Not applicable. All sources are direct fired.
Standard No. 4	The source is subject to 20% opacity and a PM limit based on a process weight rate of 1.65 ton per hour; Standard No. 4 allowable PM = 5.735 lb/hr.
Standard No. 5.1 (state only)	The facility wide VOC emissions are less than 100 TPY.
Standard No. 5.2	Drying Oven #4 fuel combustion emissions are less than five (5) tons per year each of particulates, sulfur dioxide, nitrogen oxides, and carbon monoxide; and a total uncontrolled PTE of less than 1000 pounds per month (lbs/month). Drying Oven #4 is exempt from this standard, per Section I (B)(1) - Any source emitting NO _x listed on the Regulation 61-62.1, Section II(B), Exemptions.
Standard No. 7	Not applicable - Synthetic Minor Construction permit, facility wide limits PM < 250 tpy, PM ₁₀ < 100 tpy and PM _{2.5} < 100 tpy shall be established to limit the PTE below major source threshold.
40 CFR 60 and 61-62.60	The process is not subject to Subpart VVW because the VOC Content of each coating does not exceed 9 percent by weight (reference 40 CFR 60.740 (d)(2)).
40 CFR 63 and 61-62.63	<p>Not Applicable – the facility is an Area Source for air toxics. The facility does not perform coating of a substrate, therefore the following MACTS are not applicable: 40 CFR 63 Subpart (4I); 40 CFR 63 Subpart (4K); 40 CFR 63 Subpart (4M); 40 CFR 63 Subpart (4N); 40 CFR 63 Subpart (4P); 40 CFR 63 Subpart (4Q); 40 CFR 63 Subpart (4R); 40 CFR 63 Subpart (4S).</p> <p>40 CFR 63 Subpart (4O) is not applicable because Area sources are not subject to this subpart (Printing, Coating and Dyeing of Fabrics and Other Textiles.).</p> <p>40 CFR 63 Subpart (4J) is not applicable because Area sources are not subject to this subpart (Paper & Other Web Coatings) MACT, for major sources).</p> <p>40 CFR 63 Subpart HHHHHH – Paint Stripping and Miscellaneous Surface Coating Operations is not applicable because the facility does not perform spray application of coatings.</p>

AMBIENT AIR STANDARDS REVIEW

Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	This facility has demonstrated compliance through modeling (or other method); see modeling summary dated April 21, 2017.
Standard No. 8 (state only)	This facility has demonstrated compliance through modeling (or other method); see modeling summary dated April 21, 2017.

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PUBLIC NOTICE

This construction permit will undergo a 30-day public notice period to establish Synthetic Minor limits, in accordance with SC Regulation 61-62.1, Section II.N. The comment period was open from June 6, 2017 to July 5, 2017 and was placed on the BAQ website during that time period.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.